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DATE MAILED: 11/24/2006

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,935	12/05/2001	David Prager	060783/P013US/10107418	9271
29053 75	590 11/24/2006		EXAMINER	
DALLAS OFFICE OF FULBRIGHT & JAWORSKI L.L.P. 2200 ROSS AVENUE			MATTIS, JASON E	
SUITE 2800	ENUE		ART UNIT	. PAPER NUMBER
DALLAS, TX	75201-2784	•	2616	- · · · · · · · · · · · · · · · · · · ·

Please find below and/or attached an Office communication concerning this application or proceeding.

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	Application No.	Applicant(s)	
Office Action Summer	10/010,935	PRAGER ET AL.	
Office Action Summary	Examiner	Art Unit	
	Jason E. Mattis	2616	
The MAILING DATE of this communication a Period for Reply	ppears on the cover sheet w	ith the correspondence address	
A SHORTENED STATUTORY PERIOD FOR REP WHICHEVER IS LONGER, FROM THE MAILING - Extensions of time may be available under the provisions of 37 CFR after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory perior - Failure to reply within the set or extended period for reply will, by state Any reply received by the Office later than three months after the main earned patent term adjustment. See 37 CFR 1.704(b).	DATE OF THIS COMMUNI 1.136(a). In no event, however, may a Ind will apply and will expire SIX (6) MON Inductor to become Alexandre to be alexandre t	CATION. eply be timely filed ITHS from the mailing date of this communication. BANDONED (35 U.S.C. § 133).	
Status			
1) Responsive to communication(s) filed on 19	September 2006.		
2a)⊠ This action is FINAL . 2b)□ Th	nis action is non-final.		
3) Since this application is in condition for allow			
closed in accordance with the practice under	Ex parte Quayle, 1935 C.E). 11, 453 O.G. 213.	
Disposition of Claims			
4) Claim(s) <u>1-4, 6-34, 36-47, and 62-63</u> is/are p	ending in the application.		
4a) Of the above claim(s) is/are withdr			
5) Claim(s) is/are allowed.			
6) Claim(s) <u>1-4, 6-34, 36-47, and 62-63</u> is/are r	ejected.		
7) Claim(s) is/are objected to.			
8) Claim(s) are subject to restriction and	or election requirement.		
Application Papers			
9) The specification is objected to by the Examin	ner.		
10) The drawing(s) filed on is/are: a) a		by the Examiner.	
Applicant may not request that any objection to the	ne drawing(s) be held in abeya	nce. See 37 CFR 1.85(a).	
Replacement drawing sheet(s) including the corre	ection is required if the drawing	(s) is objected to. See 37 CFR 1.121(d).	
11) The oath or declaration is objected to by the	Examiner. Note the attache	d Office Action or form PTO-152.	
Priority under 35 U.S.C. § 119			
12) Acknowledgment is made of a claim for foreign	nn priority under 35 U.S.C. (3 119(a)-(d) or (f)	
a) ☐ All b) ☐ Some * c) ☐ None of:	gn phonty under 60 0.0.0.		
1. Certified copies of the priority docume	nts have been received.	•	
2. Certified copies of the priority docume	nts have been received in A	pplication No	
3. Copies of the certified copies of the pr	iority documents have been	received in this National Stage	
application from the International Bure	au (PCT Rule 17.2(a)).	•	
* See the attached detailed Office action for a list	st of the certified copies not	received.	
•			
Attachment(s)			
) X Notice of References Cited (PTO-892)		Summary (PTO-413)	
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) B) Information Disclosure Statement(s) (PTO/SB/08)		s)/Mail Date nformal Patent Application	
Paper No(s)/Mail Date	6) Other:		

Art Unit: 2616

DETAILED ACTION

1. This Office Action is in response to the Amendment filed 9/19/06. Claims 5, 35, and 48-61 have been cancelled. New claims 62 and 63 have been added. Claims 1-4, 6-34, 36-47, and 62-63 are currently pending in the application.

Claim Rejections - 35 USC § 103

- 2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 3. Claims 1, 6, 9-12, 14, 22, 33-34, 36-37, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al. (U.S. Publication US 2002/0077113 A1) in view of Chauncey et al. (U.S. Publication US 2002/0001337 A1).

With respect to claim 1, Spaling et al. discloses a wireless communications system (See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to mobile radio cellular communications system 10, which is a wireless communications system). Spaling et al. also discloses a first subsystem having a first subscriber data interface and a first digital interface (See page 3 paragraph 39, page 5 paragraph 47, and Figures 1 and 5 of Spaling et al. for reference to radio network controller 22, which is a first subsystem, having an interface "To/From other networks", which is a first subscriber data interface, and having network interface

Art Unit: 2616

52, which is a first digital interface). Spaling et al. further discloses that the first subscriber data interface provides an interface compatible with a first general purpose protocol (See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to the interface "To/From other networks" being an interface to networks such as the PSTN, the Internet, etc., meaning the interface uses a first protocol compatible with the type of network it is connected to). Spaling et al. also discloses that the first digital interface provides an interface compatible with a protocol other than the first general purpose protocol (See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to the network connections that connects the RNS to the base stations being optical fiber links, meaning an optical fiber protocol is used for these links). Spaling et al. further discloses a second subsystem having a second subscriber data interface and a second digital interface (See page 3 paragraph 39, page 5 paragraph 48, and Figures 1 and 5 of Spaling et al. for reference to base station 16, which is a second subsystem, having a wireless interface, which is a second subscriber data interface, and having network interface 60, which is a second digital interface). Spaling et al. also discloses that the second subscriber data interface provides an interface compatible with a wireless protocol (See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to the interface being a wireless interface, meaning the interface must use a wireless protocol to communicate). Spaling et al. further discloses that the second digital interface is coupled to the first digital interface to provide communication of data between the subscriber data interfaces (See page 3 paragraph 39, page 5 paragraphs 47-48, and

Art Unit: 2616

Figures 1 and 5 of Spaling et al. for reference to network interface 52 being coupled to network interface 60 to provide communications from the wireless interface of the base station to the other network interface of the RNC). Spaling et al. does not disclose that the first and second subsystems are disposed at a subscriber location with the first subsystem being an indoor unit and the second subsystem being an outdoor unit.

With respect to claim 33, Spaling et al. discloses a method for providing wireless subscriber data signal processing (See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to a radio cellular communications system 10 implementing a wireless data signal processing method). Spaling et al. also discloses providing a first signal processing subsystem providing only digital signal processing and a second signal processing subsystem providing analog and digital signal processing of subscriber data signals (See page 5 paragraphs 47-48 and Figure 5 of Spaling et al. for reference to all radio processing being performed by a base station, which is a second signal processing subsystem, meaning a RNC, which is a first signal processing subsystem, only performs digital processing of data while the base station performs both digital and analog processing). Spaling et al. further discloses coupling the first and second signal processing subsystems using a digital link (See page 3 paragraph 39, page 5 paragraphs 47-48, and Figures 1 and 5 of Spaling et al. for reference to coupling the base station to the RNC using optical fiber links, which are digital links). Spaling et al. does not disclose that the first and second subsystems are disposed at a subscriber location with

Art Unit: 2616

the first subsystem being an indoor unit and the second subsystem being an outdoor unit.

With respect to claims 1 and 33, Chauncey et al. discloses a first and second subsystem disposed at a subscriber location with the first subsystem being an indoor unit and the second subsystem being an outdoor unit (See page 3 paragraph 59, page 5 paragraphs 92-93, and Figures 1 and 7 of Chauncey et al. for reference to a subscriber system comprising a first subsystem 12 and a second subsystem 14 located at a subscriber location with subsystem 12 being and indoor unit and the subsystem 14 being an outdoor subsystem). Using a first and second subsystem disposed at a subscriber location with the first subsystem being an indoor unit and the second subsystem being an outdoor unit has the advantage of allowing the equipment of the first subsystem to be protected from the elements in an indoor environment while allowing the signal strength of the wireless signal sent from the second subsystem to be maximized by having the transceiver in an open environment.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Chauncey et al., to combine using a first and second subsystem disposed at a subscriber location with the first subsystem being an indoor unit and the second subsystem being an outdoor unit, as suggested by Chauncey et al., with the system and method of Spaling et al., with the motivation being to allow the equipment of the first subsystem to be protected from the elements in an indoor environment while allowing the signal strength of the wireless signal sent from

Art Unit: 2616

the second subsystem to be maximized by having the transceiver in an open environment.

With respect to claim 6, Spaling et al. discloses that the first subsystem provides only digital processing of the subscriber data (See page 5 paragraphs 47-48 and Figure 5 of Spaling et al. for reference to all radio processing being performed by the base station, meaning the RNC only performs digital processing of data).

With respect to claim 9, Spaling et al. discloses that the first digital interface comprises a fiber optic interface (See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to the base station being coupled to the RNC using optical fiber links).

With respect to claim 10, Spaling et al. discloses that the second subsystem provides all analog processing of subscriber data (See page 5 paragraphs 47-48 and Figure 5 of Spaling et al. for reference to all radio processing being performed by the base station, meaning the RNC only performs digital processing of data).

With respect to claim 11, Spaling et al. discloses that the second subsystem comprises a frequency converter (See page 5 paragraph 48 and Figure 5 of Spaling et al. for reference to the base station having radio processors that convert signals to radio frequencies for transport).

With respect to claim 12, Spaling et al. discloses that the second subsystem comprises at least one amplifier (See page 5 paragraph 48 and Figure 5 of Spaling et

Art Unit: 2616

al. for reference to the base station having a power controller that controls an amplifier to send wireless signals).

With respect to claim 14, Spaling et al. discloses that the second digital interface comprises a fiber optic interface (See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to the base station being coupled to the RNC using optical fiber links).

With respect to claim 22, Spaling et al. discloses a third subsystem with a third subscriber data interface compatible with the wireless protocol and a third digital interface coupled to the first digital interface to provide communication between the first and third subscriber interfaces (See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to another base station 18, which is a third subsystem, with the same components as base station 16 and for reference to base station 18 also being coupled to the network interface of the RNC 12).

With respect to claim 34, Spaling discloses that the digital link comprises a fiber optic link (See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to the base station being coupled to the RNC using optical fiber links).

With respect to claim 36, Spaling et al. discloses coupling the first subsystem to a subscriber data communication backbone (See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to an interface "To/From other networks" being an interface that couples the RNC to other networks, which are subscriber data communication backbone networks).

Art Unit: 2616

With respect to claim 37, Spaling et al. discloses that the communication backbone comprises the Internet (See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to the RNC being coupled to the Internet).

With respect to claim 42, Spaling et al. discloses coupling the second subsystem to a wireless subscriber data communication channel (See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to the base station being coupled to a wireless interface of a wireless communication channel).

4. Claims 2 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al. in view of Chauncey et al. and in further view of Van Lieshout et al. (U.S. Publication US 2004/0203714 A1).

With respect to claims 2 and 38, the combination of Spaling et al. and Chauncey et al. does not disclose using a protocol selected from the group of T1, T3, E1, E3, OC-1, OC-3, OC-12, and ISDN.

With respect to claims 2 and 38, Van Lieshout et al., in the field of communications, discloses using ISDN (See page 1 paragraph 8 of Van Lieshout et al. for reference to a RNC using ISDN protocol in a backhaul connection to another network). Using ISDN protocol has the advantage of allowing the users of the wireless network to communicate with users of an IDSN network.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Van Lieshout et al., to combine using ISDN, as suggested by Van Lieshout et al., with the system and method of Spaling et al. and

Art Unit: 2616

Chauncey et al., with the motivation being to allow the users of the wireless network to communicate with users of an IDSN network.

5. Claims 3 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al. in view of Chauncey et al. and in further view of Eyuboglu et al. (U.S. Publication US 2002/0196749 A1).

With respect to claims 3 and 39, the combination of Spaling et al. and Chauncey et al. does not disclose using Ethernet protocol.

With respect to claims 3 and 39, Eyuboglu et al., in the field of communications, discloses using Ethernet protocol (See page 1 paragraph 5 of Eyuboglu et al. for reference to a RNC using Ethernet protocol in a backhaul connection to another network). Using Ethernet protocol has the advantage of allowing the users of the wireless network to communicate with users of an Ethernet network.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Eyuboglu et al., to combine using Ethernet, as suggested by Eyuboglu et al., with the system and method of Spaling et al. and Chauncey et al., with the motivation being to allow the users of the wireless network to communicate with users of an Ethernet network.

Art Unit: 2616

6. Claims 4, 40, and 47 rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al. in view of Chauncey et al. and in further view of Marin et al. (U.S. Publication US 2002/0174441 A1).

With respect to claims 4, 40, and 47, the combination of Spaling et al. and Chauncey et al. does not disclose using SONET protocol, which is a synchronous signal protocol.

With respect to claims 4, 40, and 47, Marin et al. discloses using SONET protocol (See page 2 paragraph 25 and Figure 2 of Marin et al. for reference to using SONET protocol in a backhaul connection). Using SONET protocol has the advantage of allowing the users of the wireless network to communicate with users of a SONET network.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Marin et al., to combine using SONET protocol, as suggested by Marin et al., with the system and method of Spaling et al. and Chauncey et al., with the motivation being to allow the users of the wireless network to communicate with users of a SONET network.

7. Claims 5, 28-32, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al in view of Chauncey et al..

With respect to claims 28-31, although the combination of Spaling et al. and Chauncey et al. does not specifically disclose using multi-port data routing and multi-port data switching, these functionalities are old and well known in the art of

Art Unit: 2616

communications. Using multi-port data routing and multi-port data switching has the advantage of allowing multiple data links to be connected from one device to many other devices using the same network interface.

It would have been obvious for one of ordinary skill in the art at the time of the invention to combine using multi-port data routing and multi-port data switching with the system and method of Spaling et al. and Chauncey et al., with the motivation being to allow multiple data links to be connected from one device to many other devices using the same network interface.

With respect to claim 32, although the combination of Spaling et al. and Chauncey et al. does not specifically disclose providing broadband interfaces, providing broadband interfaces for a wireless network as well as a wired backhaul network is old an well known in the art of communications. Providing broadband interfaces for a wireless network as well as a wired backhaul network has the advantage of providing high-speed data services to users of the system.

It would have been obvious for one of ordinary skill in the art at the time of the invention to combine providing broadband interfaces for a wireless network as well as a wired backhaul network with the system and method of Spaling et al. and Chauncey et al., with the motivation being to provide high-speed data services to users of the system.

Art Unit: 2616

8. Claims 7-8, 13, and 62-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al. in view of Chauncey et al. and in further view of Dapper et al. (U.S. Pat. 6275990 B1).

With respect to claims 7-8, 13, and 62-63, the combination of Spaling et al. and Chauncey et al. does not disclose using an OFDM digital modem and a digital multiplexer to process signals.

With respect to claims 7-8, 13, and 62-63, Dapper et al., in the field of communications, discloses using an OFDM digital modem and a digital multiplexer to process signals (See column 78 line 51 to column 80 line 10 and Figure 37 of Dapper et al. for reference to using a digital OFDM modem and a digital multiplexer to process signals). Using an OFDM digital modem and a digital multiplexer to process signals has the advantage of allowing a system to process and route OFDM signals on multiple channels such that bandwidth is used more efficiently.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Dapper et al., to combine using an OFDM digital modem and a digital multiplexer to process signals, as suggested by Dapper et al., with the system and method of Spaling et al. and Chauncey et al., with the motivation being to allow a system to process and route OFDM signals on multiple channels such that bandwidth is used more efficiently.

Art Unit: 2616

9. Claims 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al. in view of Chauncey et al. and in further view of Cam et al. (U.S. Publication US 2002/0126704 A1).

With respect to claims 15-20, the combination of Spaling et al. and Chauncey et al. does not disclose using SONET, which is a synchronous communication protocol, with training and timing overhead bits added.

With respect to claims 15-20, Cam et al., in the field of communications, discloses using SONET, which is a synchronous communication protocol, with training and timing overhead bits added (See page 1 paragraph 10 and page 2 paragraph 16 of Cam et al. for reference to using SONET protocol with training and timing overhead bit patterns). Using SONET protocol with training and timing overhead bit patterns has the advantage of using a well-known protocol to communicate quickly and efficiently communicate information in a fiber optic link.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Cam et al., to combine using SONET protocol with training and timing overhead bit patterns, as suggested by Cam et al., with the system and method of Spaling et al. and Chauncey et al., with the motivation being to use a well-known protocol to communicate quickly and efficiently communicate information in a fiber optic link.

Art Unit: 2616

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling 10. et al. in view of Chauncey et al. and Cam et al and in further view of Barsheshet (U.S. Publication US 2003/0043738 A1).

With respect to claim 21, the combination of Spaling et al., Chauncey et al., and Cam et al. does not disclose using resilient packet ring access protocol.

With respect to claim 21, Barsheshet, in the field of communications, discloses using resilient packet ring access protocol (See page 1 paragraph 4 for reference to using resilient packet ring access protocol). Using resilient packet ring access protocol has the advantage of using a high-speed efficient packet communication protocol.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Barsheshet, to combine using resilient packet ring access protocol, as suggested by Barsheshet, with the system and method of Spaling et al., Chauncey et al., and Cam et al., with the motivation being to use a high-speed efficient packet communication protocol.

11. Claims 23-27 and 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al. in view of Chauncey et al. and in further view of Schilling (U.S. Publication US 2003/0161386 A1).

With respect to claims 23 and 43, the combination of Spaling et al. and Chauncey et al. does not disclose that the third subsystem is connected to the first

Art Unit: 2616

subsystem through the same link that connects the first subsystem and the second subsystem.

With respect to claims 23 and 43, Schilling discloses subsystems linked together in a daisy chain (See page 3 paragraphs 36-40 and Figure 2 of Schilling for reference to base stations and a controller linked together in a daisy-chain).

Using subsystems linked together in a daisy chain has the advantage of allowing the amount of fiber used to connected the system to be reduced since all subsystems do not need to connect to a central subsystem directly.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Schilling, to combine using subsystems linked together in a daisy chain, as suggested by Schilling, with the system and method of Spaling et al. and Chauncey et al., with the motivation being to allow the amount of fiber used to connected the system to be reduced since all subsystems do not need to connect to a central subsystem directly.

With respect to claims 24-25 and 44-45, Spaling et al. discloses multiple subsystems connected directly to a multi-port device the first subsystem using fiber optic links (See page 3 paragraph 39 and Figure 1 of Spaling et al. for reference to both base stations 16 and 18 connected directly to RNC 12 through multiple ports of the RNC 12 using optical fiber links).

With respect to claims 26-27, although Spaling et al., Chauncey et al., and Schilling do not specifically disclose using multi-port data routers and multi-port data switches, these devices are old and well known in the art of communications. Using

Art Unit: 2616

multi-port data router and multi-port data switches has the advantage of allowing multiple data links to be connected from one device to many other devices using the same network interface.

It would have been obvious for one of ordinary skill in the art at the time of the invention to combine using multi-port data router and multi-port data switches with the system and method of Spaling et al. and Schilling, with the motivation being to allow multiple data links to be connected from one device to many other devices using the same network interface.

12. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al. in view of Chauncey et al. and in further view of Barsheshet.

With respect to claim 41, the combination of Spaling et al. and Chauncey et al. does not disclose using resilient packet ring access protocol.

With respect to claim 41, Barsheshet, in the field of communications, discloses using resilient packet ring access protocol (See page 1 paragraph 4 for reference to using resilient packet ring access protocol). Using resilient packet ring access protocol has the advantage of using a high-speed efficient packet communication protocol.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Barsheshet, to combine using resilient packet ring access protocol, as suggested by Barsheshet, with the system and method

Art Unit: 2616

of Spaling et al. and Chauncey et al., with the motivation being to use a high-speed efficient packet communication protocol.

13. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spaling et al. in view of Chauncey et al. and Schilling and further in view of Barsheshet.

With respect to claim 46, the combination of Spaling et al., Chauncey et al., and Schilling does not disclose using resilient packet ring access protocol.

With respect to claim 46, Barsheshet, in the field of communications, discloses using resilient packet ring access protocol (See page 1 paragraph 4 for reference to using resilient packet ring access protocol). Using resilient packet ring access protocol has the advantage of using a high-speed efficient packet communication protocol.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Barsheshet, to combine using resilient packet ring access protocol, as suggested by Barsheshet, with the system and method of Spaling et al., Chauncey et al., and Schilling, with the motivation being to use a high-speed efficient packet communication protocol.

Response to Arguments

14. Applicant's arguments with respect to claims 1-4, 6-34, 36-47, and 62-63 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E. Mattis whose telephone number is (571) 272-3154. The examiner can normally be reached on M-F 8AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

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jem

HUY D. VU

SUPERVISORY PATENT EXAMINER

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